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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,269	01/31/2005	Erwin Junker	F-8512	5608

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EXAMINER

MULLER, BRYAN R

ART UNIT PAPER NUMBER

3723

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/523,269

Applicant(s)

JUNKER, ERWIN

Examiner

Bryan R. Muller

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 1, 8 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/31/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because the reference number "37" that is discussed in the specification is not included in the drawings and the reference letter "D" is not clearly shown in the drawings. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because the abstract is well over 150 words in length. Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities:

- It is improper to reference the claims in the description of the invention in the body of the specification (i.e. "Claim 1" in line 1 of page 1 of the specification).
- A comma (,) should be added after the word "thus" at the beginning of the third full paragraph on page 2 of the specification.
- A comma (,) should be added between the words "parameters" and "identical" in line 4 of the second full paragraph on page 3 of the specification.
- The word "with" should be deleted from the beginning of each of the 3 bullet items found at the bottom of page 6 of the specification and the first two bullet items found at the top of page 7 of the specification.

- The reference numerals "6" and "7" are called "centers" in line 5 of the fifth full paragraph on page 10 of the specification and in the claims but are called "pins" in the abstract.
- The sixth full paragraph on page 10 of the specification uses the reference numerals "9" and "11" for the grinding headstock and uses reference numeral "9" for the spindle slide. It is assumed that the first occurrence of the words "grinding headstock" in this paragraph are intended to be "spindle slide".

Appropriate correction is required.

5. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are:

- Lines 7 and 8 of the first full paragraph on page 3 of the specification disclose that "the grinding spindle and the machine part are displaced parallel to its longitudinal axis and perpendicular thereto". These statements is unclear because, it is unclear what the terms "its" and "thereto" are referring to and appears to be stating that something is displaced both parallel and perpendicular to "its" longitudinal axis, but it is not possible for something to be both perpendicular and parallel to one thing at the same time.

Art Unit: 3723

- The phrase “when positioning only an angled component acts on the grinding location between...”, found in lines 1 and 2 of the third full paragraph on page 4 of the specification, is unclear.
- It is unclear what the term “its”, in the first line of page 5 of the specification is referring to.
- Lines 8 and 9 of the second full paragraph on page 12 of the specification disclose that the tension rings “can comprise for instance slit metal rings made of a rubber-like substance”. It is unclear how the **metal** rings can be made of a **rubber**-like substance when metal is clearly not a rubber-like substance.

Claim Objections

6. Claim 1 is objected to because of the following informalities: the word “is” should be added between the words “part” and “held” in line 6 of claim 1.
7. Claim 8 is objected to because of the following informalities: the word “clamping” in line 2 of claim 8 should be deleted.
8. Claim 9 is objected to because of the following informalities: the phrase “and in a region of said chucking jaws is provided with an actuating cone” is unclear and should be changed to “and an actuating cone is provided in a region of said chucking jaws”.
9. Appropriate correction is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The portion of claim 7 (found on the first three lines of claims page 9) that reads, "a grinding spindle that is arranged via two pivot axes that are perpendicular to one another **on** said grinding spindle slide" is unclear. It is unclear if the applicant is claiming that the grinding spindle is on the grinding spindle slide or if the two pivot axes are on the grinding spindle slide. As best understood by the examiner the claim is stating that the grinding spindle is on the grinding spindle slide. Please clarify.

12. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The preamble of claim 10 refers to the method in accordance with claim 8 or 9 but claims 8 and 9 are both apparatus claims, not method claims. Please clarify if claim 10 is intended to depend upon one of the method claims or **apparatus** claims 8 or 9.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 3723

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Junker (5,899,797).

15. Junkers discloses an apparatus for grinding a machine part (2) that is held at its ends and rotationally driven in a single chucking wherein the apparatus comprises tension and drive members (14 and 15) for chucking the machine part at its end-faces and for rotationally driving the machine part, a grinding spindle slide movable in a direction running traverse to the longitudinal axis of the machine part, said machine part and said grinding spindle slide being longitudinally mutually displaceable in a direction parallel to said longitudinal axis of the machine part, a grinding spindle (13) that is arranged on said grinding spindle slide via two pivot axes (11) that are perpendicular to one another and two grinding wheels that are borne uniaxially on said grinding spindle and that are rotationally driven thereby wherein the first and second grinding wheels are mounted overhung on the same side of the grinding spindle. Although the apparatus disclosed by Junker is not disclosed for grinding rotationally-symmetrical machine part having two axle parts and a center part situated therebetween that has an enlarged diameter and a surface at least approximately in the shape of the truncated cone having cross-section that has a contour that is a straight line or is curved, this portion of the claim appears to be intended use of the invention and the Junkers invention is inherently capable of grinding such a work piece in which case the first grinding wheel is inherently capable of grinding the truncated cone surface having a width at least equal

to a radial extension of said truncated cone surface and the second grinding wheel is inherently capable of grinding cylindrical circumferential surfaces of said machine part having a lesser width than the first grinding wheel.

Claim Rejections - 35 USC § 102/103

16. Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Junker (5,899,797).

17. In reference to claim 1, Junker discloses a method of grinding a work piece (2) comprising positioning a grinding spindle (13) supporting a first grinding wheel (9) that is cylindrical in shape and has a straight-line perpendicular to a first portion of the work piece with an axial extension of said first grinding wheel covering a radial angular extension of first portion of the work piece (fig. 3), the positioning being effected by moving said first grinding wheel and said work piece relative to one another in a direction of a longitudinal axis of the work piece, grinding cylindrical exterior surfaces (the main shaft of the work piece is cylindrical and the other portions (5) of the work piece have substantially cylindrical shape) of said work piece by longitudinal grinding with a second grinding wheel (8) that is situated uniaxially with said first grinding wheel on said grinding spindle, said grinding spindle acting successively with said first grinding wheel on said first portion of the work piece surface and with said second grinding wheel (although the second grinding wheel in the reference is used before the first grinding wheel, they are still used successively) on said cylindrical exterior surfaces, said successive acting of the first and the second grinding wheels on the machine part

comprising pivoting said grinding spindle about two pivot axes (11) that are perpendicular to one another and displacing said grinding spindle relative to said machine part in the direction of the longitudinal axis of the machine part and perpendicular thereto. Although the Junker reference does not disclose the same work piece as that disclosed in the claim, the particular work piece (machine part) is not required by the claim and therefore does not further limit the process steps, as claimed, thus the Junker reference anticipates the process steps of positioning the grinding spindle and grinding cylindrical exterior surfaces of the work piece as well as all of the apparatus structure provided by the claim. Alternatively, in view of the Junker (WO00/67947, U.S. equivalent used for translation 6,685,536, will be referred to as Junker '536) reference that discloses an apparatus that is very similar to the Junker '797 apparatus, but is intended to grind a machine part, as claimed by applicant, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Junker '797 apparatus and method to grind the machine part disclosed by Junker '536. In this case it would further be obvious that the first grinding wheel of Junker '797 would be inherently capable of grinding the truncated cone surface of the machine part and the second grinding wheel of Junker '797 would be inherently capable of successively grinding the cylindrical exterior surfaces of the machine part.

18. In reference to claim 2, Junker '797 further discloses that the width of the second grinding wheel (8) is less than that of the first grinding wheel (9).

19. In reference to claim 3, Junker '797 further discloses that the second grinding disc (8, referred to as the third grinding disc in the reference), which grinds the cylindrical exterior surfaces comprises rough grinding (col. 5, lines 44-46).

20. In reference to claim 5, Junker '797 further discloses that the work piece (machine part) is chucked between centers (14, 15) and driven to rotate by at least one of said centers (reference discloses rotary movement about the C-axis so at least one of the centers inherently must drive the work piece to rotate).

21. In reference to claim 6, Junker '797 further discloses that the work piece is held horizontally and first and second pivot axes are vertical and horizontal respectively.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Junker (5,899,797) in view of Junker (WO00/67947, U.S. equivalent used for translation 6,685,536).

24. Junker '797 anticipates or obviously discloses method steps of claim 1 and 2, as discussed supra, but Junker '797 fails to disclose that the grinding of the cylindrical exterior of the machine part comprises plunge-cut grinding. Junker '536 discloses the

Art Unit: 3723

machine part (10) that obviously may be ground by the apparatus and method of Junker '797, as discussed supra and teaches prior arts use plunge grinding machines to grind similar machine parts (col. 1, lines 12-14). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the apparatus of Junker '797 to plunge grind the cylindrical exterior surfaces of the machine part. Although Junker '797 discloses that no plunge grinding takes place to grind the work piece disclosed by Junker '797 (col. 4, lines 43-46) the apparatus of Junker '797 is still inherently capable of providing a plunge grinding operation to other work pieces, such as the machine part disclosed by Junker '536.

25. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Junker (5,899,797) in view of Junker (5,681,208).

26. In reference to claim 8, Junker '797 discloses the apparatus for grinding, as discussed supra but fails to disclose the specific structure of the tension and drive members. Junker '208 discloses a method for grinding a work piece (15) wherein the work piece is rotationally driven in a single chucking wherein the chucking comprises tension and drive members for chucking the machine part at its end-faces and for rotationally driving the machine part and further discloses that the tension and drive members for chucking the work piece comprise sleeves (23) that are attached to a work piece headstock (2) and tailstock (13) and that centeringly engage with respective centers disposed on end-face bores (22) of the work piece, and said center at the work piece headstock (2) is provided with a coupling that is mechanically linked to said end-

face bore thereat via tension members that act radially from the inside to outside for the purpose of rotationally carrying the work piece. Junker '208 further teaches that the chucking is advantageous because it does not deform the work piece in the axial direction and allows access of the entire work piece to the grinding tool (col. 1, lines 51-61). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the chucking of Junker '797 with the chucking of Junker '208 to prevent deformation of the work piece in the axial direction and to allow the grinding tool to access the entire work piece, as taught by Junker '208.

27. In reference to claim 9, Junker '208 further discloses that said coupling comprises a split cone coupling having outwardly spreading tension members in the form of chucking jaws (5) arranged in a region of a tip of a longitudinal bore of a shaft (23) situated on said work piece headstock (2) and said chucking jaws are actuated by a connecting rod (9) that passes through said longitudinal bore and in a region of said chucking jaws is provided with an actuating cone (10).

28. In reference to claim 10, Junker '797 further discloses that at their respective shafts, said centers located on at least one of said headstock and said tailstock are supported by one or more rests (16).

29. In reference to claim 11, Junker '797 further discloses that the tension and drive members are disposed on a grinding table that can be moved in a longitudinal direction of said work piece relative to said grinding spindle slide.

30. In reference to claim 12, Junker '797 further discloses that a grinding headstock (10) is arranged on the grinding spindle slide via a first of said pivot axes (11) that runs

perpendicular to its displacement plane and that the grinding spindle is pivotally disposed via a second of said pivot axed (13) that runs perpendicular to said first axis.

Conclusion

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Himmelsbach et al (5,274,961) discloses a grinding apparatus that comprises first and second grinding wheels wherein one is wider and has a smaller diameter than the other and they are arranged on the coaxially.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan R. Muller whose telephone number is (571) 272-4489. The examiner can normally be reached on Monday thru Thursday and second Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail III can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3723

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BRM *BRM*
11/10/2005



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